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UNITED STATES DEPARTMENT OF AGRICULTURE
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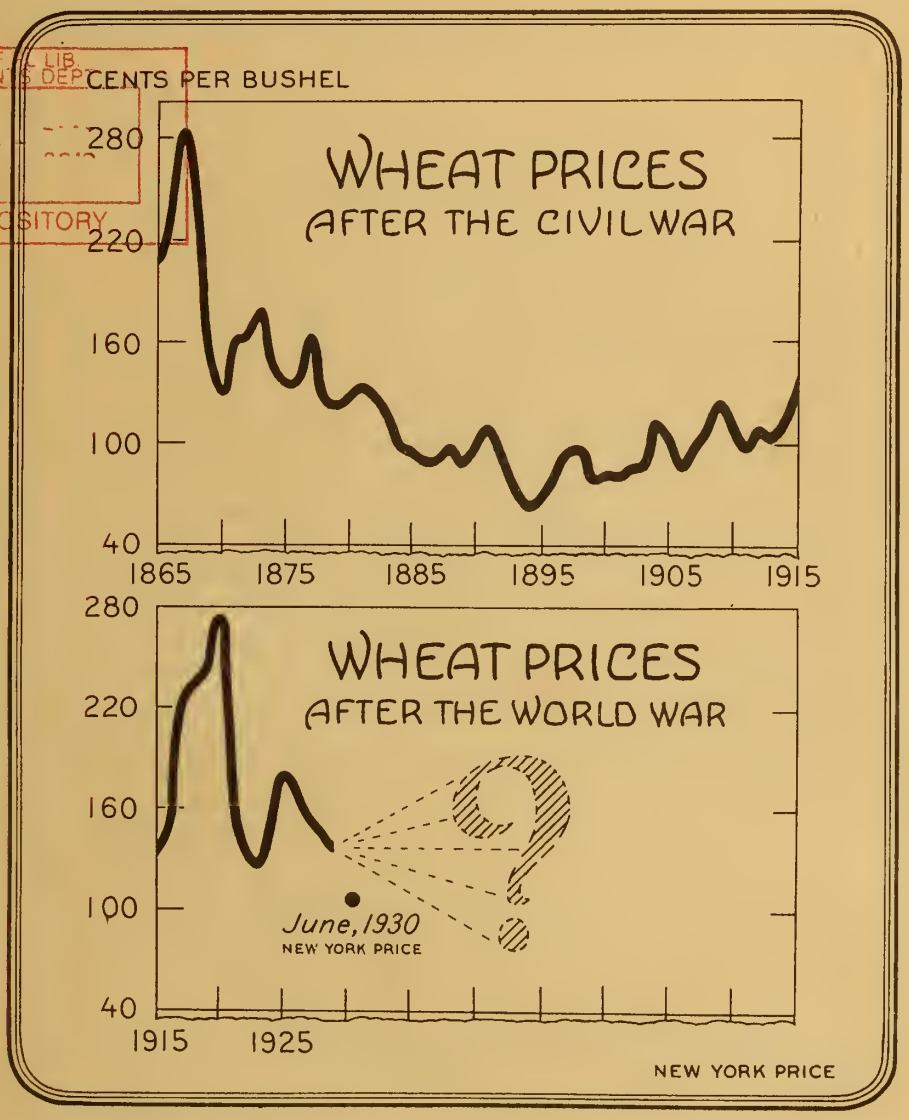
WHEAT FACTS



WASHINGTON, D. C.
JULY, 1930

PART I

WHEAT FACTS

Bound in two parts

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WASHINGTON, D. C.

JULY, 1930

UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics
Washington, D.C.

Released for Morning Papers
July 3, 1930

THE WORLD WHEAT OUTLOOK

Extensive adjustment in wheat growing, including substantial reduction in cost per bushel, must be made if wheat production is to be profitable to growers generally in the next six to ten years. This is necessary to meet intensified competition in world markets, due to increasing production in this and other countries without a corresponding increase in effective demand.

While improvement is expected over the low level of prices of the past month, the present prospect is that world wheat prices during the next seven years will average appreciably lower than in the past seven years. In the period July 1, 1923 to July 1, 1930, the price of No. 2 hard winter wheat at Kansas City averaged $1.28 per bushel. The average for June, 1930 was about 90 cents per bushel. As in the past, variation in price is expected. In years of short world crops, with business conditions normal or better, prices will doubtless be much higher than those now prevailing, but in other years large world crops may result in prices even below the present level.

Stocks of wheat increased materially from 1926 to 1929 as a result of increasing crops. From the large crop of 1928 an exceptionally large amount was carried over. A surplus condition persists in spite of a much shorter crop in 1929; although the carryover into the 1930-31 season is less than last season it is still very large. Under the pressure of the accumulated wheat surplus, reinforced in 1929 by large crops of other cereals in Europe and a world-wide business depression accompanied by a marked decline in commodity prices in general, wheat prices have fallen below the low levels reached in 1923-24.

The present prospect is that the 1930 world wheat crop will be only a little larger than the small crop of 1929, and that world supplies for 1930-31 will be no larger than they were for 1929-30. Recent low prices of wheat, under the influence of unusually restricted demand for wheat and general declines in commodity and security markets, have been below the levels that appear warranted by prospective supplies and demand for the year as a whole; but unless serious crop deterioration should occur this year, prices satisfactory to wheat growers cannot be expected until stocks are reduced to more normal size and production is brought in line with consumption. Now that farmers are making their plans for next year's acreage, it is important that the wheat outlook be taken into account, not only for the next twelve months but also for the coming years.

During the past twelve months, as in 1920-1921, a decline in the general commodity price level was an important factor in the decline in wheat prices. In the United States, wholesale prices in general declined about 10 per cent from July, 1929 to the end of May. A further decline in June probably has brought the level down nearly 15 per cent below that of a year ago. In many foreign countries prices have declined even more than in the United States. Improvement in the general commodity price level from the present depression is

to be expected in the course of the next twelve months, but there is some ground for expecting the broad trend of the general price level to be downward; this would mean that the peak of the next price cycle is not likely to be as high as the high points of the past few years. Wheat prices in the United States are likely to share in the downward trend of the general price level, the extent of the decline depending in part upon the action of wheat growers in this and other countries.

Low wheat prices, such as those recently prevailing, will cause contraction of acreage in some parts of the world; but the trends of wheat acreage and production in the past few years indicate that expansion is likely to continue in many countries even at prices lower than the average of the past seven years. In recent years, in the face of falling prices, wheat acreage has expanded rapidly in parts of the United States, Canada, Argentina, and Australia. The area sown in the southwestern winter wheat states increased approximately 4 million acres from 1924 to 1929. During the same period the area in Canada, Argentina and Australia combined increased over 10 million acres, from 49 to 59 million. This is in line with the trend in expansion since 1910. The area in the Southwestern States in 1929 was 14 million acres larger than in 1910, while that of Argentina, Canada, and Australia was 28 million acres larger. The expansion of the last few years has been made possible chiefly by improvement in equipment, new wheat varieties, and improved cultivation practices, particularly in regions of scanty rainfall. Thus it has been possible, by larger-scale, lower-cost methods to raise wheat on lands hitherto regarded as unsuited for the crop. Large areas of such lands are still available for wheat production at comparatively low costs, in important surplus-producing countries.

Russia, before the late war, was one of the greatest wheat-producing and wheat-exporting countries; in the five crop years 1909 to 1913 exports averaged 164 million bushels a year. Since the war her wheat exports have been negligible except in 1925-26 and 1926-27 when they were small; but Russia is likely to re-enter the export field as an important competitor within the next decade. Russia has large undeveloped resources for wheat production. The Soviet government is making strenuous efforts to introduce machinery and to improve methods of growing the crop. There is reason to expect that these efforts will result in increasing exports and eventually in a large surplus that will be pressed upon the export market.

The world demand for wheat increased rapidly from 1920 to 1929, in part because of recovery in purchasing power in many countries of Europe, but the rate of increase in demand is likely to be slower in the next few years. Population is increasing at a retarded rate. Further increases in purchasing power seem likely to be less notable in the next few years. In the United States and in Anglo-Saxon countries generally, and in France as well, per capita consumption of wheat products is much lower than before the war and shows no tendency to increase. In some countries of continental Europe per capita consumption of wheat has been growing at the expense of rye, corn, and some other foodstuffs; but high tariffs on wheat and flour and other regulatory measures now in effect in many of the wheat-importing countries are tending to check this expansion and even temporarily reverse it by making wheat relatively dear in a period of business depression when economies are necessary. In the Orient, and

in general outside of North America, Europe, and Australia, per capita consumption of wheat is apparently on the increase, and this trend may be expected to continue. Altogether it seems probable that world wheat consumption in the next few years will not increase much faster than population increases, except as lower levels of wheat prices may lead to increased per capita consumption in countries where wheat is now a minor element of diet.

Broadly viewed, the outlook is for continuance of severe competition in the wheat export trade. Bumper crops in exporting countries generally, such as occurred in 1928, or short crops in these countries, as in 1929, may not soon be repeated; but the exportable surpluses of Canada, Argentina, Australia, and the Balkan countries are tending upward, and Russia may again become a large exporter within the next ten years. Such extreme contraction in European wheat imports as occurred in 1929-30 is likely to be temporary, but restrictive measures there tend to check expansion in imports of wheat. World wheat prices are especially sensitive to the relation between export surpluses and the demands of importing countries, and our wheat growers must be prepared to meet increasingly severe competition in international trade.

The outlook for every wheat producer in the United States is affected by world wheat prospects. The significance of these prospects, however, varies to a considerable extent with the relation of supplies to the domestic demand for the several classes of wheat produced.

Soft red winter wheat is consumed largely in domestic markets. In most years since the war this type of wheat has sold for prices well above export price levels. A continuation of the recent tendency to reduce wheat acreage east of the Mississippi River may soon reduce production of soft red winter wheat to a level so low that even in a year of high yields and low abandonment production will not exceed the usual domestic requirements. The price advantages secured by the soft red winter wheat producer may not, however, be sufficient to offset the tendency toward lower prices for all wheat. Low protein hard red winter wheat will be substituted for soft red winter to an increasing extent as the price margin of soft red winter increases over hard winter wheats. Producers of soft red winter wheat are therefore concerned with the outlook for other types of wheat.

With the exception of a few years of large crops and heavy carryovers, our production of hard red spring wheat also has been consumed mostly in domestic markets. As a rule this wheat commands prices more or less above export prices, owing to the tariff that keeps down imports of Canadian wheat. During the past season, prices of this type of wheat have been severely affected by competition of hard red winter wheat and by the general decline of world wheat prices, in spite of the short crop and limited exports of hard red spring. This type of wheat is likely to continue to sell on the average above an export basis, but its price will be influenced not only by the carryover and production of this wheat, but also by the carryover, production, and prices of hard winter wheat.

Hard red winter, durum, and the wheats of the Pacific Northwest have to look to foreign countries for a market for a considerable surplus above domestic consumption. In the past seven years these wheats have contributed about 88 per cent of the total exports of unmilled wheat and some of the flour. The unmilled exports of these wheats have averaged nearly 25 per cent of their total production, and more could have been exported without reducing stocks below normal.

Even though the United States produces less than one-fourth of the world's wheat supplies outside of Russia, a material reduction in the crop would result in some improvement in prices. A curtailment in the production of export wheats would not only tend to raise the world wheat price level but it would also improve the relation of domestic to foreign market prices. Over a period of years, however, the initial increase in the world price of wheat resulting from a diminution in our exports probably would be offset in some degree by expansion in production and exports of other countries, but a large part of the improvement in domestic prices in relation world market prices probably would remain.

With the world situation pointing to a lower level of prices in the next six to ten years than has prevailed in the last seven years, farmers should seriously consider whether their land, their farm organization, and their farm practices are suitable for wheat production under these prospective conditions. Adjustments should be made not so much in view of the experience of the past few years as in view of the prospects for several years ahead.

In some areas a portion of the wheat acreage may well be devoted to other crops or to livestock. Shifts, however, should be made only after a careful study of the prospects for profitable returns. In the aggregate these shifts should not go so far as to produce burdensome surpluses of other commodities. The more extensive use of soil-improvement crops such as sweet clover, fallowing a larger portion of the land in the dried sections, and even leaving the least productive land unplanted should be given consideration.

Even in the newer wheat areas, where the new, low-cost methods have been accompanied by rapid expansion of total acreage, wheat growing on land least suited to the new low-cost methods of production may have to be abandoned. Establishment of new wheat-growing enterprises under present and prospective price conditions is likely to be hazardous, unless it can be done on land where lower production costs are possible. Everywhere attention should be given to possibilities of reducing production costs as one of the means of meeting competition.

The possibilities of adjustment in wheat growing vary in character and extent in the different areas and even on individual farms, and specific application of the wheat outlook can not be satisfactorily discussed in a brief review of the situation from a national standpoint. Adjustments will be dealt with more specifically in regional and state surveys or conferences by those familiar with local conditions.

UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics
Washington

Released for Morning Papers
July 7, 1930

ADJUSTMENTS IN THE HARD WINTER WHEAT AREA IN VIEW OF THE WORLD WHEAT OUTLOOK

This statement was prepared by representatives of the Agricultural Colleges and Experiment Stations of Kansas, Nebraska, Colorado, Oklahoma, and Texas, the United States Department of Agriculture and the Federal Farm Board.

With increasing foreign competition and a prospect that the average price of wheat in world markets during the next six to ten years will be lower than in the past seven, hard winter wheat growers must seriously consider the suitability of their farms, organization, and practices for profitable wheat production in the future.

As long as hard winter wheat is produced in excess of domestic requirements, that class of wheat will be very sensitive to world market conditions. In the past seven years the exports of hard red winter wheat constituted nearly 20 per cent of our production of that type of wheat and 48 per cent of our total exports of unmilled wheat. Even at that, the exports in the past two years have not been sufficient to clear the domestic markets at the end of the season for the new crops. A material reduction in the supply of hard red winter wheat would not only raise the level of world wheat prices by its effect upon the total world supply, but it would also narrow the spread in prices between Kansas City and Liverpool, resulting in a substantial improvement in the relation between domestic and foreign market prices. Over a period of years, the initial increase in the world price of wheat resulting from a diminution in our exports probably would be offset in some degree by expansion in production and exports of other countries, but a large part of the improvement in domestic prices in relation to world market prices probably would remain.

Wheat growers in the hard winter wheat belt have faced the problem of producing wheat profitably in a period of increasing world competition and declining prices. Up to the present time, many growers have been able to meet this situation by substantial reductions in costs secured through improved farm organization and production methods. The more important factors that have contributed to make this possible are: rapid adoption of improved tractors, development of small combines, increased use of better adapted wheat varieties, and better tillage methods which facilitate early preparation of the seed bed and moisture conservation and an increase

in the size of the usual wheat farm. Under the influence of these improvements, the wheat acreage has been materially expanded in the western portions of the hard winter wheat belt, during a period when agricultural prices have been settling to lower levels; and increased production there has been in turn a factor making for declines in wheat prices.

Where the land is well suited to wheat, improvements in production practices might well be more generally adopted. In the hard winter wheat belt, an increase in the size of many farms will facilitate the adoption of newer methods and equipment. In some parts of the hard winter wheat belt material increases have already been made in the size of family farms, and further increases seem probable and desirable. By such means acre costs can be lowered, yields increased, and bushel costs brought down.

Furthermore, in the western portions of the hard winter wheat belt experience and research have demonstrated the desirability of following lands used for wheat-planting wheat on only a portion of the land each year. Under this method higher average yields and higher protein content are ordinarily secured than where wheat is grown continuously. Better distribution of the use of labor and equipment is secured where following is practiced. A smaller acreage is harvested to secure a given number of bushels of wheat, thus reducing harvesting costs per bushel. Where part of the land is followed each year, a diversity of seed bed preparation methods is a necessary consequence. This gives greater stability to wheat production since no one method of preparing the seed bed is generally best year after year. This tends to reduce the risk of complete failure in any one year, thereby giving wheat production in the sub-humid areas greater stability and lower costs. A material increase in the practice of fallowing is desirable.

In view of the changes in wheat production that seem inevitable during the next few years, material adjustments in the older wheat-producing areas are highly desirable. On many farms where wheat production has long been a more or less important farm enterprise, the new conditions demand at least a partial withdrawal. Here, it is important to consider carefully the relation of the wheat enterprise to the other enterprises in the established systems of farming.

The problem of these changes at once raises the question of substitutes for wheat. The general tendency in these older wheat areas is to substitute hay and pasture crops such as sweet clover, alfalfa, and other legumes for a large part of the grain crop acreage. These crops serve the double purpose of soil improvement and feed for livestock. Any considerable acceleration of the rate at which this development is going on, however, exposes the farmers of these areas to the danger of expanding unduly their livestock enterprises, particularly in terms of beef and dairy production, and thus contributing to the periodic over-expansion of these industries.

There has been evidence of a tendency to increase land values in the newer wheat regions. In view of the outlook for wheat in the next few years, this tendency may result in distress if the land is over-capitalized. The past experience of regions in which farming has been relatively profitable is that the resultant higher incomes have been used too frequently in the higher capitalization of the land at the ultimate expense of the standards of living of the people on the land. Disaster has often followed declining prices when much of the increased income has been used to bid up land values. Excessive competition for the control of land has resulted in boom conditions in which land values rose to levels that could not be supported by its producing capacity. The consequences of such booms and their inevitable collapse are loss of farm homes, bank failures, and financially demoralized communities. Those portions of the hard winter wheat belt where incomes have been relatively high in recent years must guard against the development of such conditions.

The use of part of the farm income in fortunate years to retire indebtedness, make improvements, or accumulate reserves that can be used to tide over adverse years is a wise policy. It is established business practice to set up reserves against emergencies. This principle applies to wheat production in the Great Plains region in particular, because of the variability in weather and other production conditions. Under these conditions, the use of a portion of the income for investments that are readily saleable and of stable value is highly desirable. Such reserves are then available if needed in times of less favorable returns.

In view of the increasing world production of wheat and the probable lower level of prices, special caution should be exercised in expanding wheat production in those areas where limited rainfall and other uncertain factors make wheat growing particularly precarious. Expansion within these areas, if at all advisable, should be undertaken only by those thoroughly familiar with the conditions and the hazards involved.

UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics

WHEAT FACTS

Tables and Comments

WASHINGTON, D. C.

JULY, 1930

WORLD WHEAT PRODUCTION

In 1898 Sir William Crookes, an eminent British Scientist, predicted that, unless yields per acre were increased, the world would have a shortage of wheat by 1931 even if all the potentially available wheat land were put in use. Sir William was not an economist, but a physical scientist arguing for the need of the application of science to increase wheat yields. In that day the average yield per acre for the world was figured at 12.7 bushels per acre.

Whether or not the world took Sir William Crookes' plea to heart, the world now has a larger yield per acre. In the past seven years it has averaged 14.1 bushels, and the difference of 1.4 bushels per acre by which the average yield of the past seven years exceeds the average of 1898 makes a tremendous difference in the world total wheat production. On last year's wheat area of 320 million acres it makes a difference of 548 million bushels.

But Sir William was mistaken about the amount of potential wheat growing land in the World. He thought that the wheat area could be increased by only about 100 million acres.

The increase from 1898 to 1929 amounted to 105 million acres and the end is not yet in sight. Canada has now twice as much land in wheat as Sir William thought was her maximum.

The extent to which Sir William Crookes was mistaken is indicated by what his opinion was about the United States. He said: "Practically there remains no uncultivated prairie land in the United States suitable for wheat-growing. The virgin land has been rapidly absorbed, until at present there is no land left for wheat without reducing the area for maize, hay, and other necessary crops. It is almost certain that within a generation the ever increasing population of the United States will consume all the wheat grown within its borders, and will be driven to import, and like ourselves, will scramble for a lion's share of the wheat crop of the world".

The development of wheat growing in regions of small rainfall and the decline in the per capita consumption of wheat in the United States have completely altered the prospect. Instead of a shortage, we are faced with a burdensome surplus and we still have many acres of potential wheat land which has never been plowed.

WHEAT CONSUMPTION TRENDS

World wheat needs are greatly affected by the growth of population and by changes in the amount of flour which people use. In the United States, population has grown very rapidly in the past fifty years, but it now appears to be growing much less rapidly. In foreign countries the situation varies, in some the population is growing more rapidly than that of the United States, while in others there is a less rapid increase. France, for example, has had an almost stationary population for many years.

In some countries, notably the United States, the amount of flour which the average person uses has been decreasing. Thirty years ago the average per capita flour consumption in the United States was about 1.13 barrels, and it required about 5.4 bushels of wheat to make this amount of flour. Today, due principally to the decline in the amount of flour used per capita, the average person in the United States uses only as much flour as can be made from about 4.2 bushels of wheat.

A decline of 1.2 bushels in per capita wheat consumption of the United States may not at first thought appear to mean very much, but if we put it in terms of total wheat consumption for the whole country, we see it in its true proportions. Though we do not now have the results of the 1930 Census, it is likely that the population of the United States is now about 122 million persons.

If, then, the people in the United States consumed 1.2 bushels more wheat per person, the total consumption of the United States would now be about 146 million bushels larger than it is. In certain of the western European countries, there appear to have been a similar, though less drastic decrease in flour consumption than in the United States.

Despite the decrease in per capita consumption of wheat in the United States and in certain other countries, there are other parts of the world where the consumption of wheat flour appears to be increasing much more rapidly than population. According to a recent study of the Food Research Institute, the wheat consumption of tropical countries has increased from an average of 46 million bushels annually before the war to an average of 66 million bushels yearly during the past five years. This is an increase of over 30 per cent in wheat consumption. During the same period the population of these countries has grown from 182 to 221 million people, an increase of less than 21 per cent. These tropical countries and the countries of the Orient are increasing their per capita consumption of wheat, and there is every indiction that they will continue to do so. For them the increase of wheat consumption represents an increase in their standards of living, even as in certain of the European countries the shift from rye and other dark breads to white bread represents an increase in the standard of living.

COMMODITY PRICES

Commodity prices in general declined considerably during the latter part of the 1929-30 season. In the United States, prices remained stable during July, August and September, but following the crash in the stock market and definite evidence that the 1929 peak in business activity had already been reached they began to decline, and continued the downward course, with some interruptions, to the end of June. According to the index of the Bureau of Labor Statistics, the commodity price level for the month of May 1930 averaged nearly 10 per cent below the level of last July. Further drastic declines took place during the last half of June. These recent declines, according to the Annalist weekly index for the last week of June, have brought the general commodity price level probably nearly 15 per cent below the level of last July.

Other countries have experienced a similar downward course in commodity prices. The latest indexes available show the declines between July 1929 and March 1930 in England, Germany, France, Italy, the Netherlands and Japan ranged between 9 and 11 per cent. Prices in these countries, as in the United States have experienced further recessions in recent weeks.

Indexes of wholesale commodity prices in specified countries,
July 1929 - June 1930
1926 = 100

Year and month	United States: Bureau Labor Statistics	United States: Annalist	United Kingdom	Germany	France	Italy	Netherlands	Japan
1929 -								
July	98	99	93	103	90	73	97	93
Aug.	98	99	92	103	83	72	98	92
Sept.	98	98	92	103	87	72	97	92
Oct.	96	97	92	102	87	72	97	91
Nov.	94	95	91	101	87	71	94	89
Dec.	94	94	90	100	86	70	93	86
1930 -								
Jan.	93	93	89	89	83	69	93	85
Feb.	92	91	86	96	82	68	90	84
Mar.	91	89	84	94	80	66	87	83
Apr.	91	89		95				
May	89	88		94				
June a/....		83						

a/ June 24.

Summary review of the commodity price decline a/

. . . . . Declines in commodity prices in recent months, which have been world-wide in extent, have accompanied a recession in business activity that has reduced the volume of employment and the purchasing power of consumers. Differences in the course of prices in different groups of commodities can be explained only with reference to a large number of circumstances affecting individual industries and markets. In raw materials the principal cause of price fluctuations has been the difficulty of adjusting the supply to the demand, while in manufactured goods the trend of prices has been downward for a number of years, reflecting chiefly lower raw-material costs and economies of production through increased efficiency.

There appears to be no evidence in the available information that price declines in recent years have at any time reflected a general shortage of banking reserves, or of gold, but there are indications that the diversion of funds to this country during the period of high money rates contributed to the difficulties of economic reconstruction in Europe. Reduced industrial activity abroad, in turn, diminished the demand for raw materials, and was a factor in the price decline. Furthermore, unfavorable conditions in our bond market in 1929 made it difficult for foreign countries to arrange for long-time financing in this country, and were a further factor tending to delay industrial recovery abroad and to depress the world level of commodity prices.

a/ Quoted from Federal Reserve Bulletin, 16:339, June 1930.

COMBINES

UNITED STATES

"The combined harvester-thresher, commonly called the combine, was used along the Pacific Coast for some time prior to 1900. For years it was used exclusively in this district where weather conditions are especially favorable for combining the grain. At this time it was believed that the combine was unsuited for harvesting wheat in localities where rainfall is more or less frequent during the harvesting period. However, combines finally came into limited use in the Great Plains area between 1915 and 1920, and since then they have increased rapidly and extensively and are now well established.

The first combine of the Pacific Coast region was operated by large-sized teams but the combines of the Great Plains region of today are usually either partially or completely operated by motor power. The combine has spread rapidly over the small grain-producing areas and, at present, is used to some extent in every important wheat-producing State. Kansas was reported to have had 8,274 combines in 1926; in 1928 this number had increased to about 20,000. At the present time it is estimated that one-third of the hard winter wheat, about one-fifth of the spring wheat, and a lesser amount of soft winter wheat, is harvested with the combine.

The improvements in machinery have resulted in a great saving of labor. When wheat was harvested with a sickle and threshed with a flail, from 35 to 50 hours of labor were necessary for harvesting and threshing an acre of wheat with a yield of 15 bushels. The introduction of the cradle effected a saving of about 10 hours per acre. At present, farmers in the Great Plains usually use from 4 to 5 hours of labor for harvesting and threshing an acre of wheat when it is harvested with a binder and threshed from the shock with a stationary thresher; from 3 to 4 hours of labor, when the crop is harvested with a header and threshed with a stationary thresher; and an average of three-fourths of an hour of labor when the combined harvester-thresher is used. Stated in another way, a combined harvester-thresher usually harvests and threshes wheat at a cost of from 3 to 5 cents a bushel while the cost of threshing alone, when the header or binder is used, usually amounts to more than ten cents per bushel." H. R. Tolley in the Bulletin of the Pan-American Union, February, 1930.

Increase in use of combines

Some idea of the rapidity of the recent spread of the combine over this country may be gained from the following figures giving the total number sold in the United States annually:

1923	-	1,099	1927	-	11,221
1924	-	1,590	1928	-	18,008
1925	-	3,563	1929	-	19,666
1926	-	6,277			

In 1929 it was estimated that one-third of the hard winter wheat, about one-fifth of the spring wheat, and a lesser amount of soft winter wheat, was harvested with the combine. It was estimated that there were 2,777 combines in use in Nebraska and 20,000 in Kansas in 1929. Indications are that there will be a further increase this year.

UNITED STATES: Production and exports of combines, 1925-1929

Calendar Year	Production	Exports
	Number	Number
1925	5,131	1,720
1926	11,760	4,444
1927	18,307	4,705
1928	25,392	7,317
1929	35,800	11,071
Total	96,390	29,257

Compiled from Census of Manufacturers and reports of the Bureau of Foreign and Comestic Commerce.

UNITED STATES: Exports of combined harvesters and threshers to specified countries, 1925-1929.

Calendar year	Country to which exported					
	Russia in Europe	Canada	Argentina	Australia	other countries	Total
	Number	Number	Number	Number	Number	Number
1925	21	110	619	-	970	1,720
1926	4	368	3,637	97	338	4,444
1927	-	819	3,097	261	528	4,705
1928	33	3,560	3,116	3	605	7,317
1929	435	3,013	6,214	37	1,372	11,071
Total:	493	7,870	16,683	398	3,813	29,257

CANADA

Combines were introduced into Canada in 1908 but scarcely used until after 1923. In 1924 there were four privately owned combines, by 1926, 174.

Sales of Combines in the Prairie Provinces

Year	Number
1926	176
1927	598
1928	3,657
1929	3,295

In 1929 Canada exported 2,472 reaper-threshers - to Argentina 966, Australia 362, United States 1,029.

Canada: Imports of combines from the United States

Year	Number
1925	1,091
1926	2,161
1927	3,949
1928	5,611
1929	7,566

AUSTRALIA

A small type of one unit combine, called a stripper harvester, of domestic manufacture is in general use in Australia. In 1927-28 Australia imported 451 combines from the United States and 820 from Canada.

ARGENTINA

It is estimated that 85 to 90 per cent of threshers sold in Argentina are of American manufacture. The following table shows imports of combines into Argentina.

Imports of Combines into Argentina, 1928 and 1929

1928	
From the United States	5,000
From Canada	1,000
Other countries	214
Total	6,214
1929	
Total	3,116

TRACTORS

UNITED STATES

"During the first decade of the 20th century the gasoline tractor was going through a development period and was used by farmers only to a limited extent. The first gasoline tractors were used principally for plowing and discing; they were most common in the Wheat Belt. The first tractors tended to be of rather large size since they were used chiefly for heavy work. General-purpose tractors designed for cultivating, as well as for plowing and other light draft operations, came into limited use about 1915. Since 1920, especially within the last five years, the development of the general-purpose tractor has been rapid.

Production of Tractors

In 1917, about 60,000 tractors were manufactured in the United States which was an increase of about 100 per cent as compared with the turnout of the previous year. There were more than 250,000 tractors on farms in the United States in 1928. A considerable number of farms, largely located in the more favored areas in the Wheat Belt, Corn Belt, and the Cotton Belt, are now entirely operated by motor power.

Most of the types of machines now in use on farms in the United States were well established before the gasoline tractor assumed a role of importance. The extensive use of tractors during recent years has, however, resulted in large machinery coming into more general use. Many farmers have replaced one and two-horse implements with large-size horse implements or with tractor-operated machines. For more than 30 years the duck-foot cultivator has been used to a limited extent, at least along the Pacific Coast. Recently it has been successfully introduced in the Wheat Belt of the Northern Great Plains where it has decreased the quantity of labor needed for summer fallowing and preparing land for small grains.

Some new machines have been developed with the increased use of tractors. The three, four, and six-row cultivators and three and four lister planter are examples of such machines. The power "Take-off" is also a recent development of importance.

Decrease in Use of Horse Power

The increased use of tractors together with an even greater increase in the use of automobiles and trucks has resulted in a decrease in the number of horses and mules kept on the farms and cities of the United States. During the past decade horses and mules in the United States have decreased from about 26,000,000 to about 20,500,000 or more than 20 per cent. The replacement of work animals with tractors, trucks, and automobiles, has caused some maladjustment in our agricultural production in that there are now available for other uses from 20 million to 25 million acres of crop land which a decade ago was needed for producing feed for horses and mules. For example, producers of timothy hay who a decade ago had a well established market for their produce now find it difficult to dispose of it at prices sufficient to cover production costs. A similar situation presents itself with reference to oats. Oat prices have recently declined even more than prices for other grains. Unless new uses for oats and timothy

hay are forthcoming it will apparently be necessary for producers to reduce the acreage of these crops permanently in order to adjust production to the declining demand." The foregoing is quoted from an article by H. R. Tolley in the Bulletin of the Pan American Union, February 1930.

Tractors: United States exports to specified countries, 1925-1929

Calendar year	Country to which exported: Russia in Europe	Canada	Argentina	Australia	Other countries	Total
	Number	Number	Number	Number	Number	Number
1925	6,760	5,368	4,871	4,179	24,768	45,946
1926	9,703	8,320	2,433	4,990	25,796	51,242
1927	5,110	16,218	3,140	4,408	29,390	58,275
1928	5,083	21,037	4,982	5,137	20,826	57,865
1929	12,245	17,078	8,956	2,353	19,523	60,155
Total	38,910	68,021	24,382	21,067	120,303	273,483

CANADA

Tractor sales in Prairie Provinces

Year	Tractors
1919	8,884
1920	10,279
1921	3,428
1922	4,222
1923	4,166
1924	2,112
1925	4,053
1926	6,513
1927	10,026
1928	17,143
Total	70,786

ARGENTINA

In 1925 there were 6,000 farm tractors in Argentina according to Commerce Reports, June 22, 1925.

RUSSIA AS A FACTOR IN THE WORLD WHEAT SITUATION

Russia continues to be an uncertain factor in the world wheat situation. Just before the war she was the leading wheat exporting country of the world, exporting about 165 million bushels a year, or nearly 57 per cent more than the United States at that time. During the war and the revolution Russian wheat exports practically ceased but began to show signs of revival in 1926, and in 1927 wheat exports amounted to 49 million bushels. During the last three years Russian wheat exports have again become insignificant and during the season 1928-29 Russia was actually on an import basis.

A loss of territory after the war cut Russian total wheat production but had little effect on the surplus for export as the territory lost, if taken as an unit, was scarcely self sufficient. Wheat production in the present Russian area is somewhat above the pre-war production in the same area.

The real reason for the decrease in Russian grain exports is not due to decreased production, but the explanation lies chiefly in the rapid expansion in Russian wheat consumption. This large increase in consumption is due to the rapidly increasing population and also to an increase per capita consumption of wheat, with a shift from rye to wheat foods.

Some of the factors which have tended to prevent expansion of Russian wheat production after the revolution were: the break-up of the large private holdings which formerly produced most of the surplus wheat, and the establishment of the many additional small peasant farms. The well known repressive policy adopted by the Soviet government toward the rich peasants has discouraged surplus production and tended to make peasant farming more and more self sufficient by destroying the incentive for profit from surplus production.

To offset these conditions, the Soviet government has carried on an intensive campaign for the collectivization of Russian peasant agriculture which included 4 per cent of the peasant households in 1929 and over 50 per cent on March 1, 1930. This collectivization was expanded so rapidly that proper organization could not be developed to keep up with the movement. The sowing campaign was actually endangered in the spring of 1930 and there were numerous recessions of peasants from the collective farms.

The prospects of Russia's becoming a competitor in the world wheat market in the next decade will depend largely upon the success of the agricultural policy of the Soviet government, its ability to build up an efficient farm and marketing organization of its own pattern, to provide adequate economic stimuli, as well as an improvement in technique, and the application of scientific methods to the abundant natural resources existing for commercial wheat production.

The Soviet Union estimates that the population of that country will be increased 12 per cent from 1928 to 1933. They propose to increase the production of farm crops by 58 per cent, and increase the grain crop 50 per cent. Modernization of agriculture, they say, will result in a 35 per cent increase in the yield per acre by 1933.

In the past five years the United States has shipped nearly 39,000 tractors and 500 combines to Russia. In the meantime a factory is being built to produce their own machinery. The peasants are being collected together so that their production activities can be controlled and their output increased by the use of machinery cooperatively or collectively.

RUSSIA: Acreage and production of grain crops, average 1909-1913, annual 1925-1929

Year	Wheat	Rye	Barley	Oats	Corn
ACREAGE	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Average, 1909-1913 a/	74,209	61,055	26,193	41,256	3,246
1925	63,119	72,114	15,661	33,284	8,147
1926	73,897	71,066	17,897	39,613	7,134
1927	78,961	70,043	17,144	45,116	6,733
1928	71,879	64,412	17,653	42,625	11,194
1929	75,721	64,392	19,958	46,452	8,784
PRODUCTION	1,000 bushels	1,000 bushels	1,000 bushels	1,000 bushels	1,000 bushels
Average, 1909-1913 a/	758,941	735,505	418,030	924,918	52,185
1925	782,266	906,248	268,686	838,437	172,038
1926	913,807	941,285	245,721	1,070,809	131,489
1927	776,019	961,363	206,681	916,976	136,606
1928	793,289	752,713	252,151	1,135,369	130,701
1929	738,908	796,018	337,579	1,144,325	165,739

1925-1929, Compiled from Controlling Figures for the National Economy of U.S.S.R. for 1929-1930.

a/ Area within present boundaries.

THE EFFECT OF REDUCTION IN PRODUCTION UPON PRICES

In the past seven years the average production of wheat in the United States has been 824 million bushels annually. A reduction of 10 per cent in this amount would total slightly over 82 million bushels. In a year when United States production is 824 million bushels, United States farm prices would normally average about 40 cents below the average levels of parcels of wheat imported into the United Kingdom. A reduction of 10 per cent, or 82 million bushels in the United States crop would normally be expected to result in a reduction of about 72 million bushels in our exportable surplus. A reduction of 72 million bushels in exports would improve the average of farm prices in the United States as compared with world prices to the extent of about 6½ cents per bushel, but this would not be the only effect of a reduction in the United States crop upon the prices in the United States. There would also be the effect upon the world level of prices, and judging from such evidence as we now have, a reduction of 82 million bushels in the United States crop in any given year would tend to raise world prices about 6½ cents per bushel. Thus, the total effect upon the prices received by wheat growers of this country would amount to about 13 cents per bushel.

If only the hard winter wheat growers were to reduce acreage by 10 per cent, the effect upon their prices would not be as great as though there were a similar reduction in the crop of all classes of wheat. However, a substantial effect would be had even if the cut in acreage were confined to the hard red winter wheat region. In the past seven years the production of hard red winter wheat of the United States has amounted to a little over 316 million bushels yearly and at this level of production, about 80 million bushels are normally exported as grain. A reduction of 10 per cent in its production would normally be expected to result in a decrease of exports of that class of wheat by about 28 million bushels. Such a reduction in exports would improve the price of hard winter wheat at Kansas City as compared with the world price level by about 5.4 cents per bushel. The effect of the 32 million bushel reduction in world production in a single year would normally amount to about 2½ cents per bushel. Hence, the total effect in any given year of a 10 per cent reduction in the acreage of hard red winter wheat from the average levels of the past seven years would probably improve Kansas City prices by nearly 8 cents per bushel.

In case of a permanent reduction in acreage either for the United States as a whole or for the hard red winter wheat acreage alone, the effect would be somewhat different from that of a temporary reduction. In the first place, a reduction of a given amount in the world's supply of wheat, if it were continued over a series of years would have a greater effect upon world prices than a reduction in a single year due to low yields or other temporary factors. The fact that the world has a considerable carryover of wheat results in both small crops and large crops having less effect upon prices than they would if it were not possible to carryover the wheat from one crop year to another, thus supplementing deficiencies of small crops and taking off the surpluses of large crops. Consequently, a long continued increase or decrease in the world wheat crop may be expected to have a much greater effect upon prices than the year-to-year changes, and due to this fact a long continued decrease in the United States production would have a greater effect in succeeding years than in the first year. However, over against this is to be considered the fact that a reduction in the United States wheat crop with its tendency to raise world prices would also tend to increase the production of wheat in other countries as they would also benefit from the improved world price level. Just how far such an increase in the production of wheat in other countries would tend to counterbalance the effect of decreased production in the United States is impossible to say, but it is certain that the increase which might result in production of other countries from a decrease in the United States production would not altogether wipe out the direct effect which the decrease in United States production would have upon world prices. In the case of relationship between prices in the United States and world prices, there would be little or no tendency for any change as a result of long continued reduction in the United States crop for the amount of change in this spread is calculated upon the relationship between exports and the spread and is largely dependent upon the length of time during the year that United States prices must be upon an export basis.

Table 9.-- WHEAT: Production, exports and prices, by classes, 1923-1929

Year beginning July	Hard red spring	Durum	Hard red winter	Soft red winter	White	Total
	Million bushels	Million bushels	Million bushels	Million bushels	Million bushels	Million bushels
	Production a/					
1923	127	55	241	272	102	797
1924	192	66	365	189	52	864
1925	156	65	206	170	80	677
1926	121	48	360	229	73	831
1927	202	83	317	181	95	878
1928	203	102	385	139	86	915
1929	140	57	340	190	80	807
	Exports b/					
1923	2	19	27	11	20	79
1924	21	34	121	8	11	195
1925	5	27	10	2	19	63
1926	2	22	73	31	28	156
1927	6	31	65	14	30	146
1928	2	45	38	3	15	103
1929	2	12	55	3	18	90

Year beginning July	No. 1 dark northern spring Minneapolis	No. 2 amber durum Minneapolis	No. 2 hard winter Kansas City	No. 2 red winter St. Louis
	Price c/			
	Cents	Cents	Cents	Cents
1923	124	106	105	107
1924	158	156	135	159
1925	165	144	163	169
1926	151	155	135	138
1927	141	132	135	149
1928	126	113	112	139
1929	129	119	120	130

a/ Estimates of production by classes are based on surveys made in 1920, 1923 and 1924 of the percentage of different varieties of wheat grown, supplemented by investigations and judgment of cereal specialists. All estimates are the result of applying percentages for each State to the production of each State as estimated by the Division of Crop Estimates save that durum estimates of four States are used directly. As there are changes from year to year in the relative amounts of the varieties of wheat grown and also changes in the relative yields per acre, these figures should be considered to be only rough approximations. b/ Total as reported by the Department of Commerce. Distribution by classes made on basis of United States inspections for export by ports and inspections of United States wheat in the Eastern Division of Canada. c/ Compiled by Division of Statistical and Historical Research. Prices are average cash price per bushel weighted by car-lot sales.

WHEAT: World supply, price and disappearance, 1920-21 to 1929-30

Year	Production						
	United States	Canada	Argentina	Australia	Europe a/	All other b/	World production b/
	Million bushels	Million bushels	Million bushels	Million bushels	Million bushels	Million bushels	Million bushels
1920-21 ...	833	263	156	146	949	601	2,948
1921-22 ...	815	301	191	129	1,216	517	3,169
1922-23 ...	868	400	196	109	1,044	608	3,225
1923-24 ...	797	474	248	125	1,257	650	3,551
1924-25 ...	864	262	191	165	1,058	610	3,150
1925-26 ...	677	395	191	115	1,397	666	3,441
1926-27 ...	831	407	230	161	1,210	596	3,435
1927-28 ...	878	480	282	118	1,274	644	3,676
1928-29 ...	915	567	c/ 350	160	1,407	574	3,973
1929-30 d/	807	294	c/ 160	126	1,434	638	3,459

Year	Shipments from Russia	Stocks e/ accounted for July 1	Total supply	Total disappearance	Average price per bushel: British parcels (simple average)	Average price per bushel: No. 2 hard winter at Kansas City (weighted average)
	Million bushels	Million bushels	Million bushels	Million bushels	Cents	Cents
1920-21 ...	f/	302	3,250	2,942		183
1921-22 ...	f/	308	3,477	3,187		120
1922-23 ...	7	290	3,522	3,213		113
1923-24 ...	21	309	3,881	3,536	121	105
1924-25 ...	g/	345	3,495	3,223	179	135
1925-26 ...	27	272	3,740	3,468	170	163
1926-27 ...	49	272	3,756	3,424	163	135
1927-28 ...	5	332	4,013	3,595	152	135
1928-29 ...	g/	418	4,391	3,802	128	112
1929-30 d/	6	589	4,054		131	120

a/ Excludes Russia.
b/ Excludes Russia and China.
c/ Unofficial.
d/ Preliminary.
e/ Estimates of stocks revised to represent carryover in the United States and supplies available for export and carryover in Argentina, Australia, and Canada, the United Kingdom port stocks and supplies afloat.
f/ Not available.
g/ Less than 500,000 bushels.

WHEAT: Carryover or surplus, July 1, 1920 - 1929

Position	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
	Mil. bush.	Mil. bush.	Mil. bush.	Mil. bush.	Mil. bush.	Mil. bush.	Mil. bush.	Mil. bush.	Mil. bush.	Mil. bush.
United States:										
Stocks on farms ...	50	57	32	36	31	29	21	27	24	45
Stocks in country mills & elevators.	36	27	29	37	37	25	30	22	19	40
Commercial visible a/.....	18	10	20	29	39	29	16	26	42	96
Merchant mills	(					) 23	25	37	32	48
In transit	(b/35	b/28	b/35	b/44	b/38	) 9	7	11	11	16
Total, United States	139	122	116	146	145	115	99	123	128	245
Canada c/.....	24	19	42	39	66	42	55	56	114	125
Argentina d/	40	45	59	44	55	45	50	58	78	125
Australia d/	16	44	12	25	23	18	15	36	38	33
United Kingdom -										
Port stocks	11	13	9	5	8	9	4	8	10	8
Afloat to	22	16	11	16	18	13	16	14	12	8
Continent, afloat to:	36	36	22	26	18	13	22	21	22	31
Afloat to orders ..	14	13	19	6	16	17	11	16	16	14
Total	302	308	290	309	345	272	272	332	418	589

a/ Bradstreet's visible supply.
b/ Unofficial.
c/ Exportable surplus computed as follows: years 1920-1923, carryover August 31, 1920-1923 plus net exports during July and August. Years 1924-1929, carryover July 31 plus net exports during July. 1930, stocks March 31 less consumption, seed and exports, April 1 - June 30.
d/ Carryover December 31 plus exports July 1 - December 31.

WHEAT: Production, average, 1909-1913, 1923-1927, annual 1928-1930

Country	Average 1909-1913	Average 1923-1927	1928	1929	1930, as of July 1
	1,000 bushels	1,000 bushels	1,000 bushels	1,000 bushels	1,000 bushels
NORTH AMERICA					
United States	690,108	809,638	914,876	806,508	b/ 532,469
Canada	197,119	403,714	566,726	299,520	
Mexico	a/ 11,481	11,090	11,031	11,333	11,572
Guatemala	(200)	201	167	152	
Total	898,908	1,224,673	1,492,800	1,117,513	
EUROPE					
England and Wales	55,770	52,057	47,264	47,460	
Scotland	2,273	2,137	2,315	2,165	
Northern Ireland	287	191	183	142	
Irish Free State	1,310	1,111	1,186	1,184	
Norway	306	552	798	729	
Sweden	8,103	11,727	19,155	19,031	
Denmark	6,522	8,529	12,214	11,721	
Netherlands	4,976	5,646	7,336	4,666	
Belgium	15,199	13,988	17,215	13,225	c/ 15,873
Luxemburg	615	498	713	305	
France	325,644	278,997	281,285	319,863	
Spain	130,446	146,581	119,885	154,249	160,568
Portugal	d/ 11,850	11,250	7,546	11,110	
Italy	184,393	210,456	228,598	260,669	220,000
Malta	196	279	289	293	
Switzerland	3,314	3,766	4,270	5,791	
Germany	131,274	105,962	141,593	123,073	
Austria	12,813	9,890	12,915	11,582	
Czechoslovakia	37,879	37,821	51,499	52,902	
Hungary	71,493	68,558	99,211	74,985	81,129
Yugoslavia	62,024	65,096	103,294	94,998	
Greece	d/ 16,273	10,620	13,085	8,502	
Bulgaria	37,823	34,771	49,153	34,448	
Rumania	a/ 158,672	96,980	115,544	101,200	123,715
Poland	61,665	53,967	59,219	65,862	
Lithuania	3,264	4,204	6,327	9,329	
Latvia	1,475	1,977	2,499	2,356	
Estonia	364	799	1,037	1,268	
Finland	137	879	998	1,095	
Total	1,346,160	1,239,289	1,406,626	1,434,183	

Continued

WHEAT: Production, average, 1909-1913, 1923-1927, annual 1928-1930--Continued

Country	Average 1909-1913	Average 1923-1927	1928	1929	1930, as of July 1
	1,000 bushels	1,000 bushels	1,000 bushels	1,000 bushels	1,000 bushels
AFRICA					
Morocco	(17,000)	22,693	24,746	26,885	
Algeria	35,161	27,542	30,302	35,307	29,174
Tunis	6,224	9,627	12,125	12,309	9,002
Egypt	33,662	38,513	37,296	45,228	
Total	92,047	98,375	104,469	117,729	
ASIA					
India	351,841	344,729	290,864	317,595	386,848
Syria and Lebanon	(4,000)	13,115	6,490	16,343	
Japan	23,655	27,521	30,812	30,496	
Chosen	6,898	9,736	8,595	8,320	
Total	386,374	395,101	336,761	372,754	
Total N.Hemisphere	2,723,489	2,957,438	3,340,656	3,042,179	
SOUTHERN HEMISPHERE					
Chile	20,062	26,628	29,679	37,037	
Argentina	147,059	228,492	307,362	137,435	
Union of South Africa	d/ 6,034	7,307	6,693	10,273	
Australia	90,497	136,604	159,657	125,669	
New Zealand	6,925	6,347	8,833	7,100	
Total	270,577	405,378	512,224	317,514	
Total, 46 countries	2,994,066	3,362,816	3,852,880	3,359,693	
Est. world total excl. Russia and China	3,041,000	3,451,000	3,973,000	3,459,000	
Russia	758,941	672,678	793,289	756,908	

a/ Four-year average.
b/ Winter only. Production of winter wheat in 1929 was 578,356,000 bushels.
c/ Winter only, about 99 per cent of the total crop.
d/ One year only.

WHEAT IMPORT DUTIES IMPOSED BY FOREIGN COUNTRIES

WHEAT: Import duties per bushel in foreign countries a/

Country		Duty in United States currency b/
		Cents
Austria		11.03
Belgium	c/	Free
Canada:		
General (from United States)		42.00
Preferential (British Empire)		Free
Czechoslovakia:		
Maximum		48.34
Minimum d/		24.17
Denmark		Free
France		85.35
Germany		97.24
Greece:		
Conventional rate	c/	22.59
Italy		86.67
Japan	f/	33.62
Mexico		64.45
Netherlands		Free
Norway		Free
Poland	g/	33.59
Portugal	h/	
Spain:		
First tariff		220.61
Second tariff	i/	73.537
Sweden		26.99
Switzerland		105.05
United Kingdom		Free

a/ Bushels of 60 pounds. b/ Foreign currency converted at par rate of exchange except as otherwise stated. c/ Import license required. d/ Imports from the United States enjoy minimum rate, which is extended to countries having a most favored nation treaty with Czechoslovakia. e/ Duty stated in metallic drachmas, but payable in stabilized paper drachmas at the ratio of 15 paper drachmas to 1 metallic drachma. In addition to the duty, there are surtaxes amounting to three fourths of basic duty, payable at the same ratio. f/ Conversion to United States currency made on the basis of the rate of exchange prevailing on June 30, 1930. g/ Free of duty under special permit. h/ Wheat may be imported only by authority of special decrees, which also fix the rates of duty. i/ Applies to imports from the United States. Surtax on wheat 7 gold pesetas per 100 kilos (equivalent to 36.77 cents per bushel.) Duties are paid one fourth in gold and the remainder in silver or Bank-notes, plus gold surtax varying periodically.

DUTIES LEVIED BY FRANCE, GERMANY AND ITALY

Foreign countries have been increasing their import duties on wheat during the last few years, as may be seen from the following table:

WHEAT: Import duties per 60 lb. bushel in specified countries, on specified dates a/

Country	Duty in United States currency			
	1923	April 1929	July 1929	June 28, 1930
	Cents	Cents	Cents	Cents
Italy.....	Free	57.73	73.54	86.67
France.....	30.52	37.44	53.34	85.35
Germany.....	Free	32.41	42.14	97.24

a/ These dates do not indicate the date on which the duty became effective.

Italian Import duty on wheat

(1) Jan. 31, 1915 to July 24, 1925:

Free: Duty suspended during this period.

(2) July 24, 1925:

Rate of 7.50 Gold Lire per 100 kilograms (39.4 cents per bushel).

(3) September 13, 1928:

Rate of duty increased to 11 Gold Lire per 100 Kilograms (57.78 cents per bushel).

(4) May 24, 1929:

Rate of duty increased to 14 Gold Lire per 100 kilograms (73.54 cents per bushel).

(5) June 5, 1930:

Rate of duty increased to 16.50 Gold Lire per 100 kilograms (86.67 cents per bushel).

French import duty on wheat

Year and date effective	Rate per 100 kilograms (220.46 lbs.)	Equivalent rate in U.S. currency per bu. (60 lbs.)a/
	Francs	Cents
1910:		
April 1	7.00	36.80
1921:		
July 4	14.00	30.52
1926:		
April 6	18.20	17.24
1926:		
Oct. 18 to Jan. 1, 1927 on soft wheat	b/ 10.20	8.08
1927:		
January 1	18.20	19.56
September 3	25.00	26.67
November 18	35.00	37.44
1929:		
May 24	50.00	53.34
1930:		
May 22	80.00	85.35

Rates obtained or verified by Foreign Tariffs Division of the Bureau of Foreign and Domestic Commerce, September 10, 1929.

a/ Conversions made on the basis of par or the rates of exchange prevailing on the dates when changes in rates became effective. The equivalent of the average rates for any given month or year will vary according to the prevailing rates of exchange.

b/ Special decree authorizing reimbursement to millers of 8 Francs per 100 kilograms of the duty on soft wheat.

German Import duty on wheat

The German import duty on wheat has been increased from 77.79 cents to 97.24 cents per bushel, under the terms of a decree issued by the German Government to become effective on April 25, 1930, according to a cablegram received from the U. S. Agricultural Commissioner at Berlin. This marks the third increase in the wheat duty so far this year under the new German tariff and agricultural relief laws. The first increase became effective on January 20, when the duty was increased from 42.14 cents to 61.59 cents per bushel, while a second increase to 77.79 cents per bushel became effective on March 27. These increases are made under a sliding scale plan which is designed to ensure a wheat price of at least 260 Marks per metric ton, or $1.685 per bushel.

Year and date effective	Rate per 100 kilograms (220.46 lbs)	Equivalent rate in U.S.currency per bushel
	Marks	Cents
1923:		
June	Free	--
1929:		
Prior to July 10	5.00	32.41
July 10	6.50	42.14
1930:		
Jan. 20	9.50	61.59
Mar. 27	12.00	77.79
April 25	15.00	97.24

AVAILABLE EVIDENCES OF AN INCREASE IN CATTLE PRODUCTION AND COMPARISONS WITH A SIMILAR PERIOD IN THE PREVIOUS CATTLE CYCLE

Unpublished estimates of cattle on farms January 1, since 1927, furnished Mr. C. L. Harlan of the Division of Crop and Livestock Estimates, are as follows:

Cattle: Estimated numbers on farms, January 1, 1927-1929

Year	All cattle on farms	Cows, heifers and calves milked or to be milked	Cows and heifers, 2 years and over, not milked and not to be milked	Heifers 1-2 years, not being kept for milk cows	Calves except heifer calves being kept for milk cows	Steers one year and over	Bulls one year and over
	Thousands	Thousands	Thousands	Thousands	Thousands	Thousands	Thousands
1927	56,832	30,351	9,304	2,692	7,383	5,750	1,352
1928	55,676	30,658	8,903	2,586	7,115	5,074	1,340
1929	56,467	31,190	8,801	2,645	7,296	5,188	1,347
1930	57,967	32,175	8,984	2,733	7,518	5,179	1,378

Cattle numbers reached a low point in 1928 and since then they have been increasing. Even though about two-thirds of the increase from 1929 to 1930 was in dairy cattle, gains are shown in all classes of beef cattle except steers. The increase in cows and heifers not being kept for milk production indicates a moderate increase in beef cattle breeding herds.

A striking similarity exists between the present situation in cattle numbers and that which existed in 1914, as shown by the following figures:

All cattle on farms, January 1				Cattle on farms other than milk cows			
Year	Number	Year	Number	Year	Number	Year	Number
	Thousands		Thousands		Thousands		Thousands
1911	56,219	1927	56,832	1911	35,396	1927	35,031
1912	55,022	1928	1/ 55,676	1912	34,323	1928	1/ 33,848
1913	55,833	1929	1/ 56,467	1913	35,336	1929	1/ 34,548
1914	58,737	1930	2/ 57,967	1914	38,000	1930	2/ 35,458
1915	62,532			1915	41,270		

Table 349, 1930 Yearbook.

1/ Revised in January, 1930.
2/ Preliminary.

The low point in the previous cattle production cycle was reached in 1912 and the increase in numbers, as shown by the January 1 figure, in 1913 and 1914 may be compared with that of 1929 and 1930 following the low point of 1930.

The following comparisons of inspected cattle slaughter in the two periods are of value in judging when the increase in cattle production now apparently under way will result in larger market supplies:

Inspected slaughter of cattle and calves, 1911-1915 and 1927-1929

Year	Cattle	Calves	Year	Cattle	Calves
	Thousands	Thousands		Thousands	Thousands
1911...	7,619	2,184	1927	9,520	4,877
1912...	7,253	2,278	1928	8,467	4,680
1913...	6,978	1,902	1929	8,324	4,489
1914...	6,757	1,697			
1915...	7,153	1,819			

Table 361, 1930 Yearbook.

The first reflection of increased production in market receipts during the previous cycle was in 1915 and the downward trend in the price cycle began in that year. The comparison indicates that the effect of increased production on market supplies will begin to show up in 1931. It should be noted in this connection, however, that the increase in January 1 cattle numbers from 1913 to 1914 was much greater than that fro 1929-to 1930. Other factors will affect the 1931 slaughter. For example, if little recovery from the recent price decline is made before the end of the year and farmers react to it similarly to the way they have in the past during similar price situations, many cattle will be held over and marketed in 1931.

The classification of cattle slaughtered, 1927-1929, is shown below:

Per cent of total cattle slaughter 1/

	Steers	Cows and heifers	Bulls and stags
1927.....	47.01	49.27	3.72
1928.....	45.34	50.78	3.88
1929.....	48.63	47.38	3.99

1/ Division of Livestock, Meats and Wool.

The tendency to withhold breeding stock from the market that prevailed in 1929 is also shown by these data. The per cent of cows and heifers slaughtered in 1929 was the smallest for any year for which these figures are available (1922-1929)

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